



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER OF PATENTS AND TRADEMARKS
 Washington, D.C. 20231
 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,930	04/05/2001	Mi-Hyun Son	Q63362	3817

7590 05/24/2002
 SUGHRUE, MION, ZINN
 MACPEAK & SEAS, PLLC
 2100 Pennsylvania Avenue, N.W.
 Washington, DC 20037-3202

EXAMINER

HAM, SEUNGSOOK

ART UNIT	PAPER NUMBER
----------	--------------

2817

DATE MAILED: 05/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/825,930

Applicant(s)

SON ET AL.

Examiner

Seungsook Ham

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4, line 13, "a capacitor compensator formed of a closed loop stripline" is misleading since the applicant's invention is based on a capacitor being a lumped element (see claim 1). Moreover, it is unclear as to how a closed loop stripline functions as a capacitor compensator.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Rousseau (FR '216) or Graf (DE '435).

Rousseau (figs. 1-6) discloses a radio-filter comprising: input and output terminals 9, 10, a transmission line filter having at least one pair of transmission lines 3-8, each of the transmission lines having a via-hole located at each of its respective ends 13-24 (see also fig. 5), a ground layer 32 connected to the transmission lines through

via-holes; and a capacitor compensator 33 of lumped element connected through via-holes located at second ends of the transmission lines to connected the transmission lines and a ground layer (see fig. 5).

Graf (figs. 1 and 2) also discloses a radio-filter comprising: input and output terminals P, a transmission line filter having at least one pair of transmission lines R, each of the transmission lines having a via-hole located at each of its respective ends K(see fig. 2), a ground layer M connected to the transmission lines through via-holes; and a capacitor compensator C of lumped element connected through via-holes located at second ends of the transmission lines to connected the transmission lines and a ground layer.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

Application/Control Number: 09/825,930

Art Unit: 2817

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2 and 3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Rousseau (FR '216) or Graf (DE '435).

Rousseau and Graf are applied as above. It should be noted that Rousseau and Graf disclose the transmission lines being microstrip lines (see abstract). It is inherent from the device of Rousseau or Graf that the capacitor compensator 33, C provides a length of the transmission lines that is a half wavelength of a center frequency of the transmission line filter. Alternatively, Rousseau teaches that each capacitor compensator 35-38 are tunable (see abstract). Therefore, it would have been obvious to one of ordinary skill in the art to tune the capacitor compensator such that a length of the transmission lines electrically meets a half wavelength of a center frequency of the transmission line filter to obtain a desired filter frequency. Also, it would have been obvious to one of ordinary skill in the art to provide the capacitor compensator which provides a half wavelength of a center frequency of the transmission line filter in the device of Graf to obtain a desired filter frequency.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rousseau (FR '216) or Graf in view of Hirai (JP '903).

Rousseau is applied as above. Rousseau (see figs. 1 and 5) and Graf (fig. 2, element M') also show a capacitor compensator formed of a closed loop stripline

Application/Control Number: 09/825,930
Art Unit: 2817

containing a via-hole connected with one of the via-holes of the striplines of the strip line filter. Rousseau or Graf does not show the top ground layer having second input and output terminal formed of closed loop striplines containing via-holes connected respectively with the via-holes of the first input and output terminals. However, such tri-plate stripline structure is well known in the art. Hirai (figs. 1-3 and 12) discloses a tri-plate stripline filter having input and output terminals formed of a closed loop stripline 28 connected to the stripline filter by via-holes. Therefore, it would have been obvious to one of ordinary skill in the art to provide second input and output terminals on the top ground layer and coupled to the first input and output terminals through via-holes in the device of Rousseau or Graft since such design technique is well known and also provide a high degree of designing freedom as taught by Hirai.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lacour et al., Ishikawa, Suzuki, Seitzer et al., Ooi et al. and Komazaki et al. disclose stripline filter having lumped capacitors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seungsook Ham whose telephone number is (703)308-4090. The examiner can normally be reached on Monday through Thursday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on (703)308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are

Application/Control Number: 09/825,930

Art Unit: 2817

(703)308-7724 for regular communications and (703)308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.



Seungsook Ham
Primary Examiner
Art Unit 2817

sh
May 16, 2002
